

BOOK REVIEWS

WYLLIE (P. J.), Editor. *Experimental petrology and global tectonics*. Amsterdam (Elsevier Publ. Co.), iv+109 pp., 38 figs. (Tectonophysics, vol. 17, no. 3, 187-97), 1973. Price Dfl. 17.50.

This special issue of *Tectonophysics* (subtitled *Geodynamics Project; Scientific Report no. 2*) contains the Proceedings of the Symposium on Experimental Petrology and Global Tectonics held at the 24th International Geological Congress, Montreal, 1972, under the auspices of the I.U.G.S. Commission on Experimental Petrology at High Pressures and Temperatures. Following a 20-page introductory review by P. J. Wyllie, there are six papers (for full titles and brief abstracts see M.A. 74-1864): the subjects covered range from the origin of some magmas in oceanic regions (I. Kushiro), the origin of andesites (A. L. Boettcher), the generation of batholiths (W. S. Fyfe), and contrasting melting relations in a pyrolite upper mantle in various environments (D. H. Green), to paired and unpaired metamorphic belts (A. Miyashiro) and blueschist metamorphism in subduction zones (W. G. Ernst). The combination of geophysics and experimental petrology provides a way for testing petrological models of the lithosphere and asthenosphere and, indirectly, of the processes of formation of lithosphere from the asthenosphere, and of its destruction in subduction zones. These invited papers give detailed results of experimental petrology on which such models must be based.

R. A. H.

EDGAR (A. D.). *Experimental petrology: basic principles and techniques*. Oxford (Clarendon Press), 1973. xii+217 pp., 54 figs. Price £5.75.

To become familiar with the techniques of experimental petrology, there is no substitute for practical experience, guided by established members of the profession. The material in this book should help to shorten the early fumbling stages of the apprenticeship, which are much the worst for pupil, teacher, and equipment alike. All books of this kind that attempt to distil data and descriptions from a large number of works are open to criticism on content: there never will be a perfect selection. My main personal criticism against this book is the very sketchy and shallow treatment of phase diagrams in chapter 2. This chapter does not seem to be up to the same standard as the others and Edgar might have been wiser to have left it out altogether.

There are a number of specific points with which I disagree; the more important of these will now be dealt with in page order.

Page 26, figure 2.6 (e): there should be a temperature maximum on field boundary P_1 - P_2 , a small but important omission as the diagram is used to illustrate peritectic and eutectic points.

Page 28, figure 2.7 (a): there should be no field boundary between A and Ass, the single field should be labelled Ass.

Pages 74 and 75: Edgar has not made it clear that it is the e.m.f. equivalent of the